WE CLAIM

1. A micro-electromechanical fluid ejection device that comprises

a substrate that incorporates drive circuitry;

nozzle chamber walls and a roof that are positioned on the substrate to define a nozzle chamber with the roof defining a fluid ejection port in fluid communication with the nozzle chamber;

a fluid-ejecting member that is operatively positioned with respect to the nozzle chamber, the fluid-ejecting member being displaceable with respect to the substrate to eject fluid from the fluid ejection port;

an actuator that is connected to the fluid-ejecting member and to the drive circuitry, the actuator being displaceable upon receipt of an electrical signal from the drive circuitry to displace the fluid-ejecting member and thus eject fluid from the fluid ejection port; and

a covering formation that is positioned on the substrate so that the substrate and the covering formation define an air chamber, the actuator being positioned within the air chamber.

2. A device as claimed in claim 1, which is the product of an integrated circuit fabrication technique.

3. A device as claimed in claim 2, in which the substrate includes a silicon wafer substrate, a CMOS drive circuitry layer positioned on the silicon wafer substrate and an ink passivation layer positioned on the CMOS drive circuitry layer.

4. A device as claimed in claim 3, in which each fluid-ejecting member is positioned in its respective nozzle chamber and is displaceable towards and away from the fluid ejection port.

5. A device as claimed in claim 3, in which each nozzle arrangement includes a work-transmitting structure that is displaceable with respect to the substrate and is connected to the fluid-ejecting member so that displacement of the work-transmitting structure results in displacement of the fluid-ejecting member, the actuator being connected to the work-transmitting structure to displace the work-transmitting structure.

6. A device as claimed in claim 5, in which the roof, the work-transmitting structure and the covering formation together define a protective structure that is positioned in a common plane.

7. A device as claimed in claim 3, in which a plurality of fluid inlet channels are defined through the substrate, with each fluid inlet channel opening into a respective nozzle chamber.

8. A device as claimed in claim 6, in which the roof, the work-transmitting structure and the covering formation are configured so that the protective structure is unitary.